

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently amended) A composition comprising a protein in crystalline form wherein the protein ~~has at least 90% identity with residues 143-438~~ consists of SEQ. ID No. 44.

2-3 (Cancelled)

4. (Currently amended) A composition according to claim 1 wherein the protein crystal diffracts X-rays for a determination of structure coordinates to a resolution ~~greater than~~ having a value that is less than or equal to 3.0 Angstroms.

5. (Original) A composition according to claim 1 wherein the protein crystal has a crystal lattice in a $P2_12_12_1$ space group.

6. (Original) A composition according to claim 1 wherein the protein crystal has a crystal lattice having unit cell dimensions, +/- 5%, of $a=48.36\text{\AA}$ $b=72.29\text{\AA}$ and $c=94.52\text{\AA}$, $\alpha=\beta=\gamma=90^\circ$.

7-8 (Cancelled)

9. (Currently amended) A method for forming a crystal of a protein comprising:

forming a crystallization volume comprising a precipitant solution and a protein ~~wherein the protein has at least 90% identity with residues 143-438~~ that consists of SEQ. ID No. 44; and

storing the crystallization volume under conditions suitable for ~~crystal~~ formation of the a protein crystal.

10-11 (Cancelled)

12. (Currently amended) A method according to claim 9 wherein ~~the~~ a protein crystal is formed that diffracts X-rays for a determination of structure coordinates to a resolution ~~greater than~~ having a value that is less than or equal to 3.0 Angstroms.

13. (Currently amended) A method according to claim 9 wherein ~~the~~ a protein crystal is formed that has a crystal lattice in a $P2_12_12_1$ space group.

14. (Currently amended) A method according to claim 9 wherein ~~the~~ a protein crystal is formed that has a crystal lattice having unit cell dimensions, +/- 5%, of $a=48.36\text{\AA}$ $b=72.29\text{\AA}$ and $c=94.52\text{\AA}$, $\alpha=\beta=\gamma=90^\circ$.

15. (Currently amended) A method according to claim 9, wherein a protein crystal is formed, the method further comprising diffracting the protein crystal to produce a diffraction pattern and solving the structure of the protein from the diffraction pattern.

16. (Cancelled)

17. (Withdrawn) A composition comprising an isolated protein consisting of SEQ. ID No. 3.

18. (Withdrawn) A method of identifying an entity that associates with a protein comprising:

taking structure coordinates from diffraction data obtained from a crystal of a protein that has at least 90% identity with SEQ. ID No. 3; and

performing rational drug design using a three dimensional structure that is based on the obtained structure coordinates.

19. (Withdrawn) A method according to claim 18 wherein the protein has at least 95% identity with SEQ. ID No. 3.

20. (Withdrawn) A method according to claim 18 wherein the protein crystal has a crystal lattice having unit cell dimensions, +/- 5%, of $a=48.36\text{\AA}$ $b=72.29\text{\AA}$ and $c=94.52\text{\AA}$, $\alpha=\beta=\gamma=90^\circ$.
21. (Withdrawn) A method according to claim 18 wherein the protein crystal has a crystal lattice in a $P2_12_12_1$ space group
22. (Withdrawn) A method according to claim 18, the method further comprising selecting one or more entities based on the rational drug design and contacting the selected entities with the protein.
23. (Withdrawn) A method according to claim 18, the method further comprising measuring an activity of the protein when contacted with the one or more entities.
24. (Withdrawn) A method according to claim 18, the method further comprising comparing activity of the protein in a presence of and in the absence of the one or more entities; and selecting entities where activity of the protein changes depending whether a particular entity is present.
25. (Withdrawn) A method according to claim 18, the method further comprising contacting cells expressing the protein with the one or more entities and detecting a change in a phenotype of the cells when a particular entity is present.
26. (New) The method according to claim 15 further comprising:
performing rational drug design using the solved structure; and
identifying an entity that associates with the protein.
27. (New) The method according to claim 26 further comprising selecting one or more entities based on the rational drug design and contacting the selected entities with the protein.
28. (New) The method according to claim 27 further comprising measuring an activity of the protein when contacted with the one or more entities.

29. (New) A composition comprising a protein consisting of SEQ. ID No. 4.
30. (New) A composition comprising a protein consisting of SEQ. ID No. 3.